

Br. Vibh and

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Heavy infestation of *Pyrrilia* on sorghum
(Please refer to the article on page 44).

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DIVISION OF ENTOMOLOGY
INDIAN AGRICULTURAL RESEARCH INSTITUTE
NEW DELHI-12.

Some More Appreciations

.....This is a very useful information Bulletin and we would like to get it regularly.....

S. V. Sangameswaran,
Central Food & Technological Research
Instt., Mysore-2A.

.....Permit me to congratulate you for having started this very valuable Newsletter which will no doubt be of universal utility and service to both Entomologists and the lay public alike.....The Newsletter may also receive and incorporate valuable research results achieved in the field of Industrial Entomology like silk and lac.

S. Krishnaswami,
Director,
Central Agricultural Research & Training Institute,
"Shanthivilas" Nazarbad,
Mysore-1.

.....shall be very pleased to receive future copies in exchange for our Acridological Abstracts, Anti-Locust Reprints, Bulletins and Memoirs.....

Incidentally would there be any possibility of getting a print of the fine photograph on the front cover of Number 1, i.e. the *Uromastix* devouring locusts.....

Donald Jay
Anti-Locust Research Centre,
London-8.

.....I must congratulate you for bringing out this most needed publication for prompt, dissemination of findings of the results of research to a large body of persons interested in agricultural production.

If you have no objection I may be permitted to pick up some news items to have them reproduced in the Journal "Pesticides".....

P. R. Mehta,
Secretary-General,
Pesticides Association of India,
20 Ring Road, Lajpat Nagar-IV,
New Delhi-24.

Focus on the Spread of Insecticide Resistance in Stored-Product Pests

(Recently there have been queries regarding the development of resistance to malathion in stored-product pests. This indicates the urgent need of active interest in the information given below —Editors)

Over the past decade evidence has been accumulating of the development of insecticide resistance among field populations of stored-product insects. Latest report shows that insecticide resistant strains of at least thirteen species, which include ten species of beetles and three species of moths, are now known from different parts of the world (Dyte, C.E. 1970. *Trop. stored Prod. Inf.* **20**, 13-18). The insecticides involved are the persistent contact insecticides chiefly, malathion, lindane, DDT and pyrethrins with malathion involved in the maximum number of instances. Eight species of insects represented by one or more strains have shown resistance to malathion. There are no reports, however, of any serious resistance to the fumigants in practice.

From amongst the pests the ubiquitous red flour beetle, *Tribolium castaneum* (Herbst) is the main culprit. Resistance in this species is widespread, with malathion resistance occurring in at least thirteen and lindane resistance in at least ten countries. Malathion resistance has been reported to occur in Australia, Nigeria, U.S.A., Egypt, England, the Gambia, Japan, Kenya, Malawi, Malaysia, Senegal, the Seychelles and India. Lindane resistance has been reported from Australia, Kenya, Nigeria, England, the Gambia, Malawi, Malaysia, Senegal, the Seychelles and Zambia. In addition to these established cases, resistance to the two insecticides is suspected to occur in many other countries.

The reports of the widespread occurrence of resistance in *T. castaneum* is creating an alarming situation in the world. It is complicated by the fact that the problem of resistance is being spread

from country to country in ships through international trade and even countries which have not yet taken to large scale and extensive use of insecticides have to contend with resistant strains. The implications of such a situation are, indeed, serious. These developments in the case of *T. castaneum* are indicative of what is likely to happen with other major stored-product pests. The emergence of their resistant strains in any part of the world should, therefore, be viewed with concern as the resistance does not remain confined to that country alone but moves about in world trade in foodgrains and other produce. Within a country the difficult problems of insect resistance will spread rapidly with commodity movements. Thus the complacency which resulted from the initial delay in the appearance of this problem in stored-product entomology has disappeared now in view of the number of cases reported and the speed with which the once established resistant strains can be distributed in the country of origin and abroad.

In India we already have resistant strains of *T. castaneum*, the only species among the storage pests so far reported to have developed resistance. Malathion resistance has been established to occur in Delhi where a strain collected from the Food Corporation of India godowns located at Naraina, was observed to be 37.8 times resistant as compared to a susceptible strain. This strain, however, was found not to be resistant to either lindane or *p,p'* DDT. Adults collected from cargoes originating from Bombay, Kakinada and Vizagapatnam and unloaded at English ports were seen to be resistant to malathion and lindane as revealed by studies carried out in U.K. Similarly, malathion resistant samples were collected in ships at Australian ports from peanuts imported from India. Also strains sent by air to U.K. from Madras and Mysore were found there to be malathion resistant. Thus the two types of resistance seem to be widely prevalent in India. Hence we are faced with a serious threat to the future use of these two insecticides in the country especially malathion which presently is applied on the surface of bags regularly and extensively for protecting foodgrains. This problem would have become all the more accentuated and speeded up if entire grain mass would have been treated by this insecticide.

This new problem which is raising its head calls for alertness on the part of entomologists engaged in the control of stored-product pests.

S. K. Bhatia

New genera and new species of Typhlocybinae (Homoptera : Cicadellidae)

New genera

<i>Murreeana</i> , gen. nov.	Tribe Dikraneurini
<i>Pusaneura</i> , gen. nov.	„
<i>Duttaella</i> , gen. nov.	„
<i>Pusatettix</i> , gen. nov.	„
<i>Basuaneura</i> , gen. nov.	„
<i>Sabourasca</i> , gen. nov.	Tribe Typhlocybini
<i>Viridasca</i> , gen. nov.	„
<i>Sundara</i> , gen. nov.	„

New species

<i>Murreeana duttai</i> , sp. nov.	<i>Pusaneura signata</i> , sp. nov.
<i>Duttaella punjabensis</i> , sp. nov.	<i>Pusatettix bipunctatus</i> , sp. nov.
<i>Basuaneura kalimpongensis</i> , sp. nov.	<i>Empoanara dravidana</i> , sp. nov.
<i>Sujitettix delhiensis</i> , sp. nov.	<i>Sujitettix aryavartha</i> , sp. nov.
<i>Kybos theacola</i> , sp. nov.	<i>Kybos sabourensis</i> , sp. nov.
<i>Akotettix centromaculata</i> , sp. nov.	<i>Amrasca furcostylus</i> , sp. nov.
<i>Pruthius varians</i> , sp. nov.	<i>Pruthius erythromaculatus</i> , sp. nov.
<i>Viridasca albomaculata</i> , sp. nov.	<i>Sabourasca peculiaris</i> , sp. nov.
<i>Sundara delhiana</i> , sp. nov.	<i>Sundara quadrimaculata</i> , sp. nov.
<i>Lankasca ficianeilla</i> , sp. nov.	

Usha Ramakrishnan & M. G. R. Menon

New Record of Homoptera

Togaritettix serratus Matsumura (Homoptera : Cicadellidae) was collected from light domes of I.A.R.I. The species was so far recorded from Japan only. Thus this is a new record from India. The species has been redescribed since the original description was found incomplete.

Usha Ramakrishnan & M. G. R. Menon

First Record of Bulb Mite from India

The bulb mite *Rhizoglyphus echinopus* Fumouze & Robin, (so called because it infests bulbs of a number of ornamental plants), is a pest of variety of plant materials including vegetables, mushrooms,

decaying grains etc., besides the bulbs of ornamental plants. Recently, it was observed to be infesting a shipment of seed potato received from the Central Potato Research Institute, Simla. This is the first record of this mite of the genus *Rhizoglyphus* from India.

S. R. Wadhi, B. R. Verma & K. M. Srivastava

A New Record of Skink *Ophiomorus tridactylus* (Blyth) Reptilia: Scincidae) as Desert Locust Egg predator

During the course of work on the predators of Desert Locust, authors have observed that the skink *Ophiomorus tridactylus* predaes on locust eggs from the buried egg pods. Burrowing mode is with the help of snout & wriggling movements of body underneath the sand. The eggs are eaten as well as dislodged from the egg pods, thereby cheking the emergence of hoppers. The skink prefers partially moist sand near grassy patches. It predaes on other insect eggs also. This is the first record of lizard as locust egg predator so far known.

R. K. Bhanotar, R. K. Bhatnagar & Y. Mahto

***Ascotis imparata* Walker (Lepidoptera : Geometridae) as a pest of rose**

Ascotis imparata is gaining importance these days as a pest of rose at Delhi. The infestation takes place in April/May, scattered over the tender shoots and flower buds, which they devour, and continues for 2 to 3 months till the advent of rains.

The larva is green. Full grown larva measures nearly 55 mm. in length. After about two and a half months it comes down and pupates underneath the fallen leaves and debris. The pupal period lasts nearly 25 days.

N. S. Bhattacherjee

Possible change in host preference of sugarcane *Pyrilla*

Pyrilla perpusilla (Walker) is recorded as a rather specific pest of sugarcane. During recent years it has been turning its attention to other crops like wheat and paddy.* It was observed in large numbers on a number of other crops, during March-June, 1970. Periodical cou-

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nts were taken from 25th April to 5th May on the population of adults and number of egg masses on 100 randomly selected plants of sorghum, maize and sugarcane grown in the same area. The maximum adult population and egg masses recorded on sugarcane, sorghum and maize were : 68 and 40, 240 and 72 and 1316 and 600 respectively. Thus both the adult population as well as egg masses were much higher on maize and sorghum, than on sugarcane which is considered as the primary host of *Pyrilla*. In the case of maize and sorghum, the material sown was new high yielding varieties. Thus it indicates a possibility of switch in host preference of *Pyrilla* from sugarcane to new high yielding varieties of maize and sorghum.

M.G. Jotwani & Dinesh Chandra

New host records of the sphingids *Hippotion calerio* Linnaeus, *Theretra alecto* Linnaeus and *Acherontia styx* West-wood

Larvae of the grape-vine sphinx, *Hippotion calerio* Linnaeus and *Theretra alecto* Linnaeus were found feeding on leaves of the elephant foot yam, *Amorphophallus campanulatus* (Blume) and the lablab sphinx, *Acherontia styx* Westwood on *Clerodendrum inermi* (L.) Gaetn. and *Jasminum sambac* (L.) Ait. in Poona. The larvae were reared on respective host plants in Poona and the moths were identified by the Division of Entomology, I.A.R.I., New Delhi.

S.N. Chatterjee* & R.D. Ram*

House sparrow (*Passer domesticus*) predator of Drones of *Apis cerana indica* Fabricius

The house sparrows which have earlier been described to be feeding mainly on grains and fruits and occasionally on the larvae of moths and grubs of beetles etc., are now also proving predators on the drones of Indian honey bee *Apis cerana indica*. This observation has resulted from the experimental work taken in connection with the food of birds.

Y.P. Beri, D.S. Bisht & M. Raizada

*Regional Research Station (IARI) Agricultural College Estate, Poona-5.

Theses Approved

Theses of the following candidates on the topics mentioned against each were approved.

Name of the Candidate	Title of Thesis	Degree
Sh. K. Ramasubbiah	"Residues and Residual toxicity of Phosphamidon in Bhindi, Cowpea, Cabbage and Mustard".	Ph. D.
Sh. M. W. Bhamburkar*	"Metabolism of diazinon in <i>Schistocerca gregaria</i> Forskal".	Ph. D.

New Appointment

Shri S. R. Wadhi, Jr. Entomologist (Soybean) joined as Entomologist (Plant Quarantine) on 7.5.71.

Recent Publications

Parasitic Diseases of Wild Mammals by J.W. Davis and R. C. Anderson (1971) Iowa State University Press, U.S.A.

Infectious and Parasitic diseases of Wild Birds by J. W. Davis, R. C. Anderson, L. Kastad and D.O. Trainer (1971) Iowa State University Press U.S.A.

South East Asia Postgraduate Course in Agricultural Nematology

The course is being held by the Division of Nematology in the Entomology Division premises of the Indian Agricultural Research Institute, New Delhi-12, from 1st June to 7th August, 1971.

Corrections

On p. 33 (Vol. 1 No. 4,) kindly read *Apis cerana indica* instead of *Apis cerania indica*.

On p. 38 (Vol. 1 No. 5) kindly read *Atherigona naqvii* and *A. naqvii* instead of *Antherigona naquii* and *A. naquii* respectively. The printing mistakes are very much regretted.

Editors

*Approved by the Punjabrao Krishi Vidyapeeth, Akola (Maharashtra)

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